Amendments to the Claims:

1. (Currently Amended) A data storage structure that stores a plurality of sub-networks, wherein each sub-network performs ~~an output function~~ at least three output functions, wherein the data storage structure stores each sub-network based on a parameter derived from all the output functions of the sub-network.

2. (Canceled)

3. (Original) The data storage structure of claim 1,

wherein each sub-network includes a set of circuit elements, and

the data storage structure stores each sub-network in terms of

(i) a graph that represents the topology of the set of circuit elements of each sub-network, wherein the graph includes a node for each circuit element of the sub-network,

(ii) a set of local functions that includes a local function for each node of the graph.

4. (Original) The data storage structure of claim 3, wherein the data storage structure stores, for each sub-network, an identifier that specifies the set of local functions and the graph that specify the sub-network.

5. (Original) The data storage structure of claim 4, wherein the identifier for each sub-network specifies the locations that store the set of local functions and the graph of the particular sub-network.

6. (Original) The data storage structure of claim 4, wherein the identifier for each sub-network is a set of indices that specifies the set of local functions and the graph of the sub-network.

7. (Original) The data storage structure of claim 6,

wherein the set of indices for each sub-network includes a graph index and a set of function indices,

wherein, for each sub-network, the graph index identifies the storage location of the graph for the sub-network, and each function index identifies the storage location of a local function of the sub-network.

8. (Original) The data storage structure of claim 7, wherein the storage structure is a database, and the graphs are stored in a graph table, and the local functions are stored in at least one function table, wherein each graph index specifies a record in the graph table, and each function index specifies a record in the function table.

9. (Original) The data storage structure of claim 8, wherein the local functions are stored in multiple function tables, wherein a first function table is for are n-input functions, and a second function table is for m-input functions, where n and m are integers, wherein some of the function indices specify functions in the first function table while other function indices specify functions in the second function table.

10. (Original) The data storage structure of claim 4, wherein the data storage structure associates the generated parameter for each sub-network with the graph and function identifier for the sub-network.

11. (Currently Amended) A sub-network record management system comprising:

a) a data storage structure that stores a plurality of sub-networks, wherein each sub-network is for performing ~~an output function~~ at least three output functions, wherein the

data storage structure stores each sub-network based on a parameter derived from all the output functions of the sub-network~~,~~; and

b) a data access manager that identifies and retrieves sub-networks from the data storage structure.

12. (Original) The record management system of claim 11, wherein when the data access manager receives a parameter, the manager searches the data storage structure for sub-networks that are stored based on the received parameter, and if the manager finds a sub-network that is stored based on the received parameter, the manager retrieves the sub-network.

13. (Original) The record management system of claim 12,

wherein each sub-network includes a set of circuit elements, and

the data storage structure stores each sub-network in terms of

(i) a graph that represents the topology of the set of circuit elements of each sub-network, wherein the graph includes a node for each circuit element of the sub-network,

(ii) a set of local functions that includes a local function for each node of the graph, and

for each retrieved sub-network, the manager retrieves the graph and the set of local functions of the sub-network.

14. (Original) The record management system of claim 13,

wherein the data storage structure stores, for each sub-network, an identifier that specifies the set of local functions and the graph that specify the sub-network, and

the data storage structure associates the generated parameter for each sub-network with the graph and function identifier for the sub-network, and

wherein the manager uses the received parameter to identify an identifier associated with the received parameter, and then uses the identified identifiers to retrieve a graph and a set of local functions.

15. (Original) The record management system of claim 14, wherein the manager uses the received parameter to identify a set of identifiers associated with the received parameter, and then uses the identified set of identifiers to retrieve graphs and sets of local functions that specify several sub-networks.

16. (Original) The record management system of claim 14, wherein the identifier for each sub-network is a set of indices that specifies the set of local functions and the graph of the sub-network.

17. (Original) The record management system of claim 16,

wherein the set of indices for each sub-network includes a graph index and a set of function indices,

wherein, for each sub-network, the graph index identifies the storage location of the graph for the sub-network, and each function index identifies the storage location of a local function of the sub-network.

18. (Original) The record management system of claim 17, wherein the storage structure is a database, and the graphs are stored in a graph table, and the local functions are stored in at least one function table, wherein each graph index specifies a record in the graph table, and each function index specifies a record in the function table.

19. (Original) The record management system of claim 18, wherein the local functions are stored in multiple function tables, wherein a first function table is for are n-input

functions, and a second function table is for m-input functions, where n and m are integers, wherein some of the function indices specify functions in the first function table while other function indices specify functions in the second function table.

20. (New) The record management system of claim 11 wherein:

each sub-network comprises a set of circuit elements; and

at least some of the sub-networks comprise a first circuit having a first output outside the sub-network and a second circuit having a second output outside the sub-network, wherein the first circuit receives a direct or indirect input from the second circuit.

21. (New) The data storage structure of claim 1 wherein:

each sub-network comprises a set of circuit elements; and

at least some of the sub-networks comprise a first circuit having a first output outside the sub-network and a second circuit having a second output outside the sub-network, wherein the first circuit receives a direct or indirect input from the second circuit.